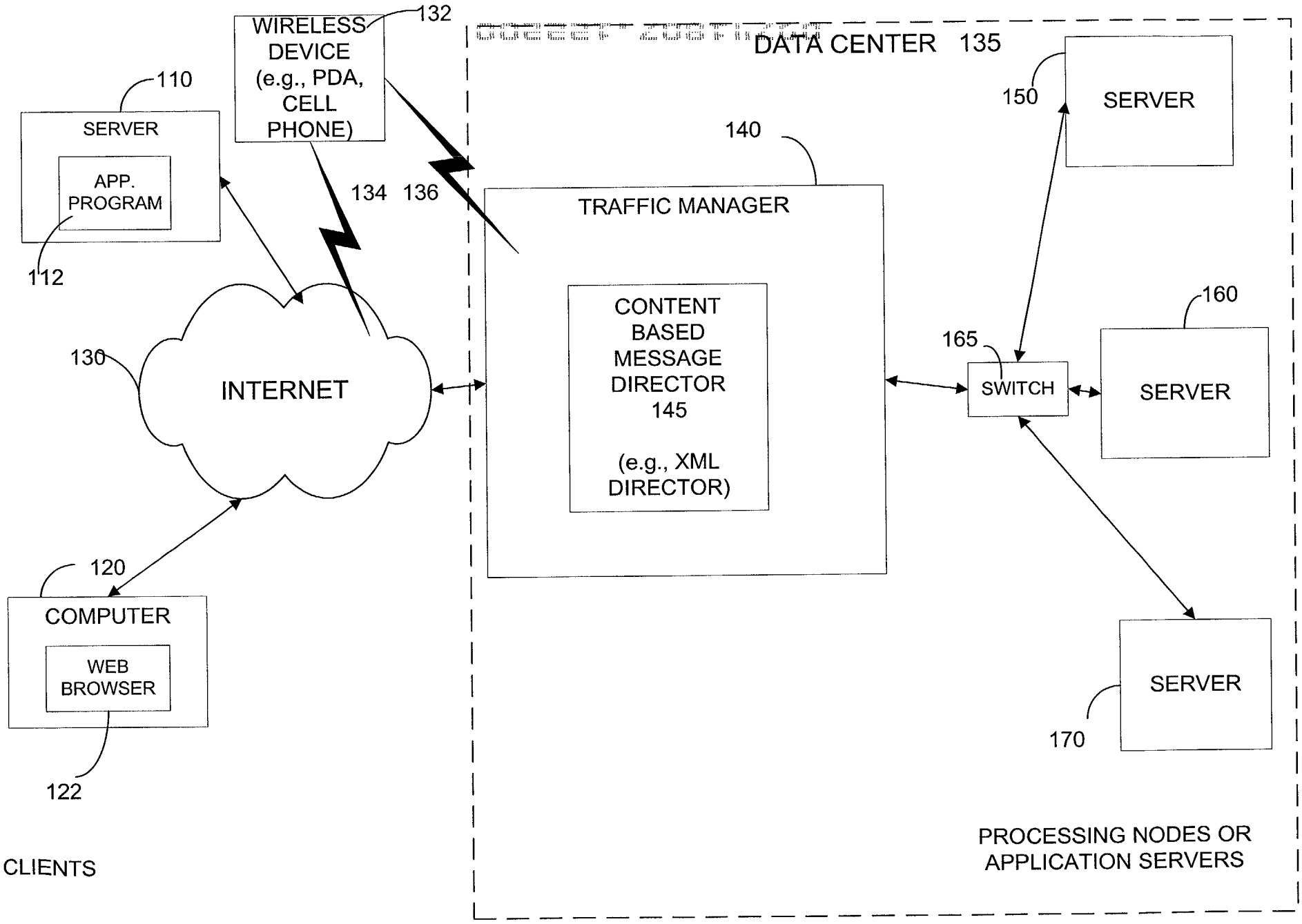
WIRELESS DEVICE (e.g., PDA, CELL PHONE)
132
DATA CENTER 135
110
SERVER
APP. PROGRAM
112
134
136
140
TRAFFIC MANAGER
150
SERVER
CONTENT BASED MESSAGE DIRECTOR 145
(e.g., XML DIRECTOR)
160
165
SWITCH
SERVER
130
INTERNET
120
COMPUTER
WEB BROWSER
122
SERVER
170
CLIENTS
PROCESSING NODES OR APPLICATION SERVERS

FIG. 1

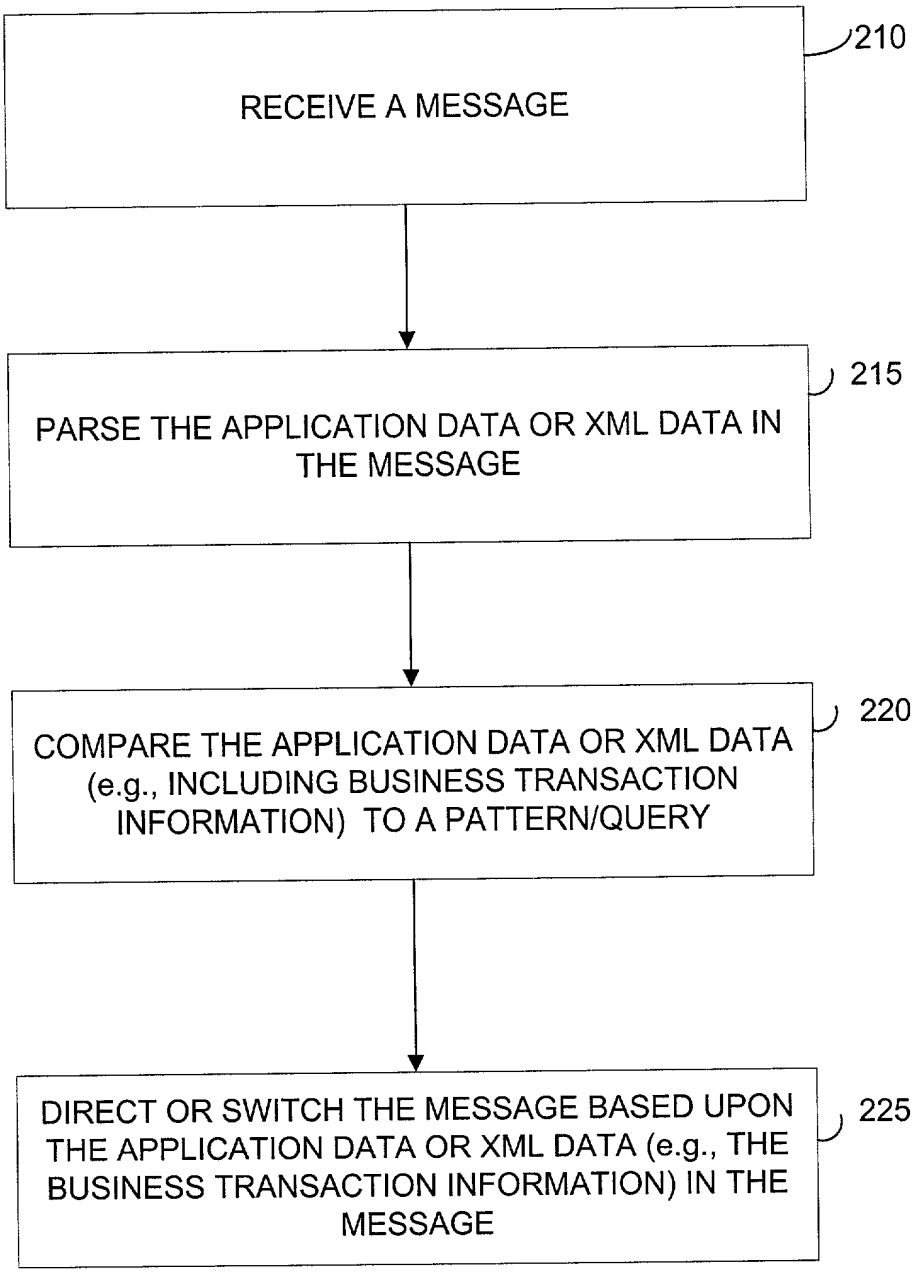
RECEIVE A MESSAGE
210
PARSE THE APPLICATION DATA OR XML DATA IN THE MESSAGE
215
COMPARE THE APPLICATION DATA OR XML DATA (e.g., INCLUDING BUSINESS TRANSACTION INFORMATION) TO A PATTERN/QUERY
220
DIRECT OR SWITCH THE MESSAGE BASED UPON THE APPLICATION DATA OR XML DATA (e.g., THE BUSINESS TRANSACTION INFORMATION) IN THE MESSAGE
225

FIG. 2

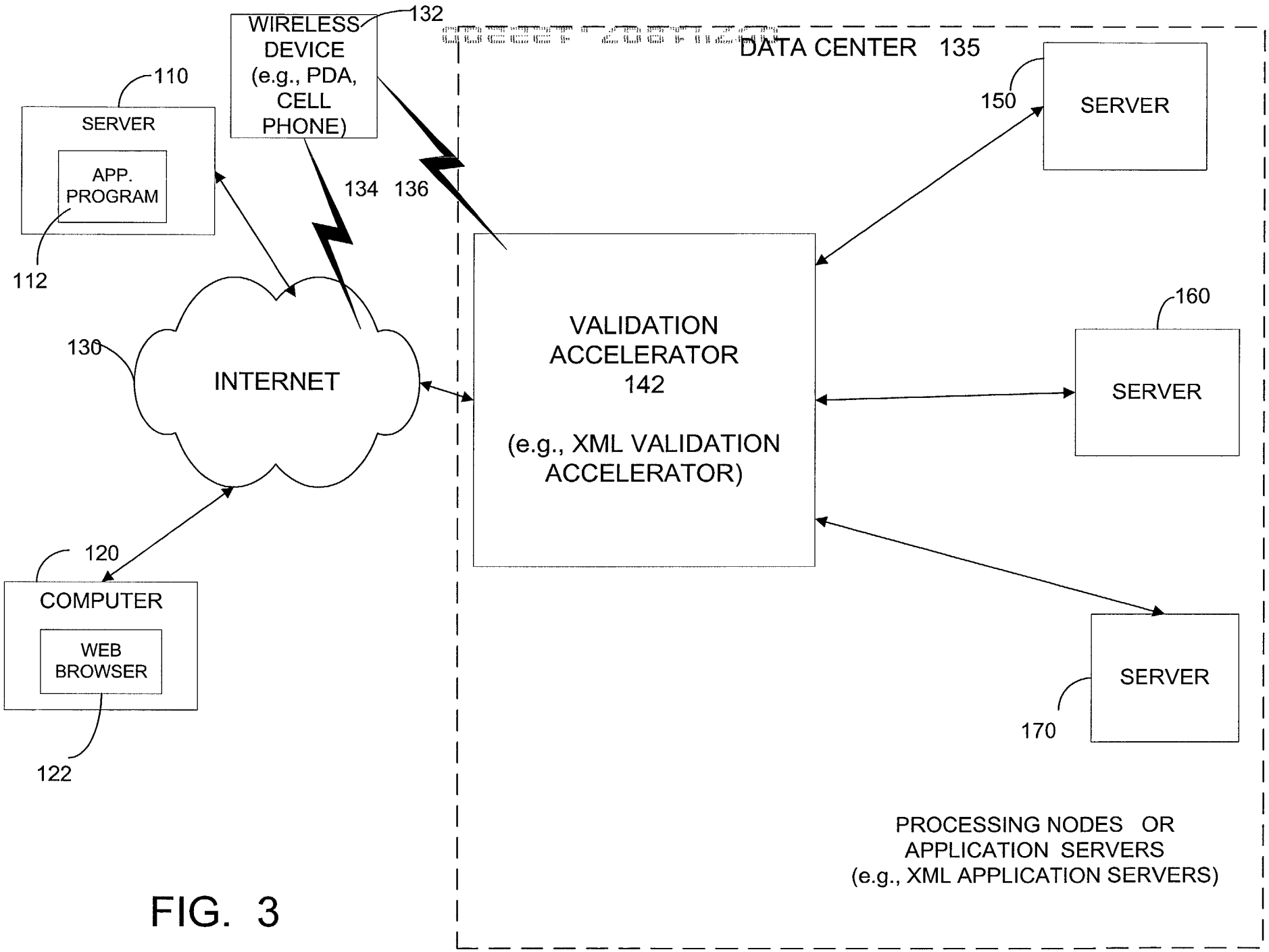
WIRELESS DEVICE (e.g., PDA, CELL PHONE)
132
DATA CENTER 135
110
SERVER
APP. PROGRAM
112
150
SERVER
134
136
130
INTERNET
VALIDATION ACCELERATOR 142
(e.g., XML VALIDATION ACCELERATOR)
160
SERVER
120
COMPUTER
WEB BROWSER
122
SERVER
170
PROCESSING NODES OR APPLICATION SERVERS
(e.g., XML APPLICATION SERVERS)

FIG. 3

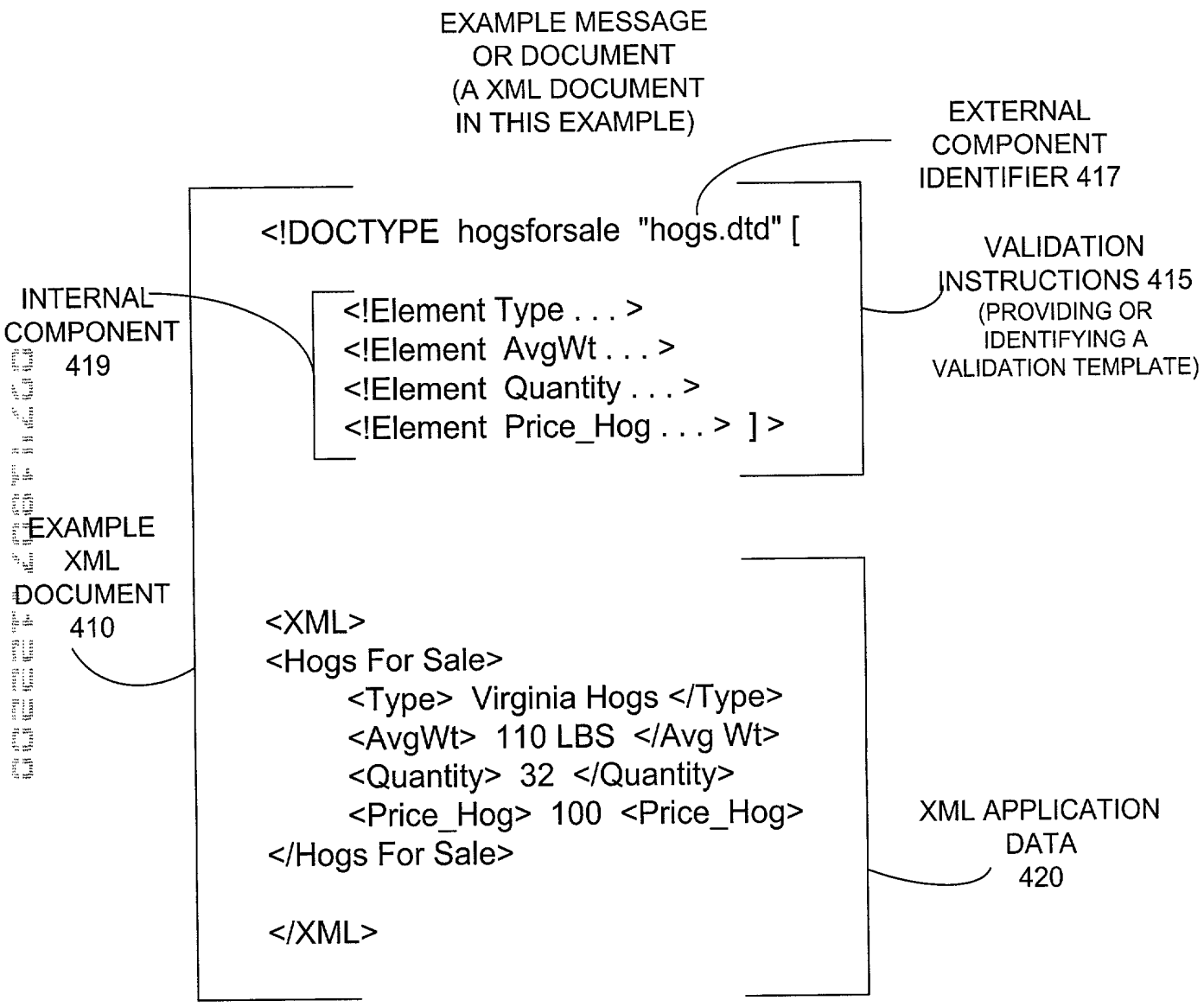
EXAMPLE MESSAGE
OR DOCUMENT
(A XML DOCUMENT
IN THIS EXAMPLE)
EXTERNAL
COMPONENT
IDENTIFIER 417
<!DOCTYPE hogsforsale "hogs.dtd" [
VALIDATION
INSTRUCTIONS 415
(PROVIDING OR
IDENTIFYING A
VALIDATION TEMPLATE)
INTERNAL
COMPONENT
419
<!Element Type . . . >
<!Element AvgWt . . . >
<!Element Quantity . . . >
<!Element Price_Hog . . . >] >
EXAMPLE
XML
DOCUMENT
410
<XML>
<Hogs For Sale>
<Type> Virginia Hogs </Type>
<AvgWt> 110 LBS </Avg Wt>
<Quantity> 32 </Quantity>
<Price_Hog> 100 <Price_Hog>
</Hogs For Sale>
</XML>
XML APPLICATION
DATA
420

FIG. 4

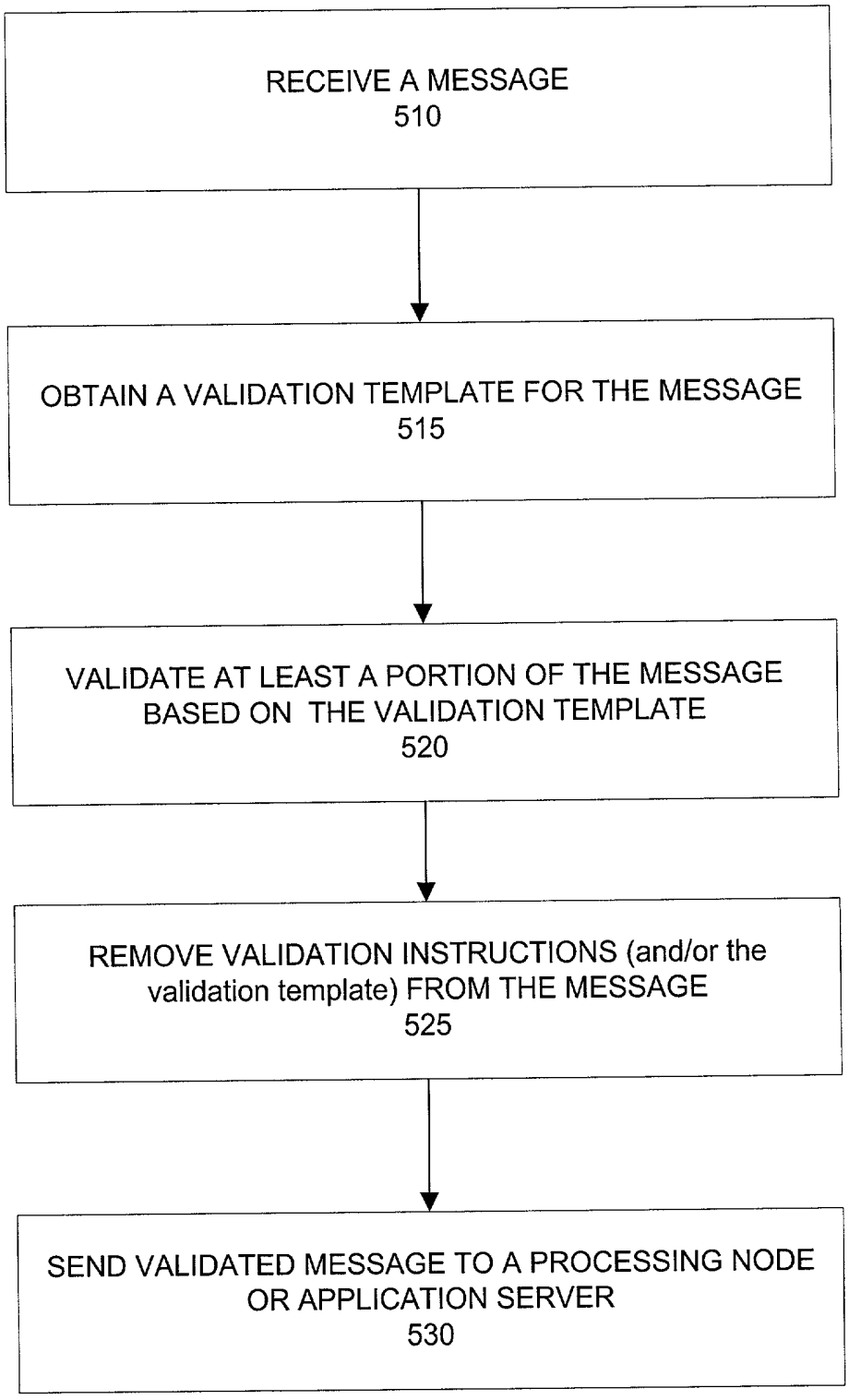
RECEIVE A MESSAGE
510
OBTAIN A VALIDATION TEMPLATE FOR THE MESSAGE
515
VALIDATE AT LEAST A PORTION OF THE MESSAGE BASED ON THE VALIDATION TEMPLATE
520
REMOVE VALIDATION INSTRUCTIONS (and/or the validation template) FROM THE MESSAGE
525
SEND VALIDATED MESSAGE TO A PROCESSING NODE OR APPLICATION SERVER
530

FIG. 5

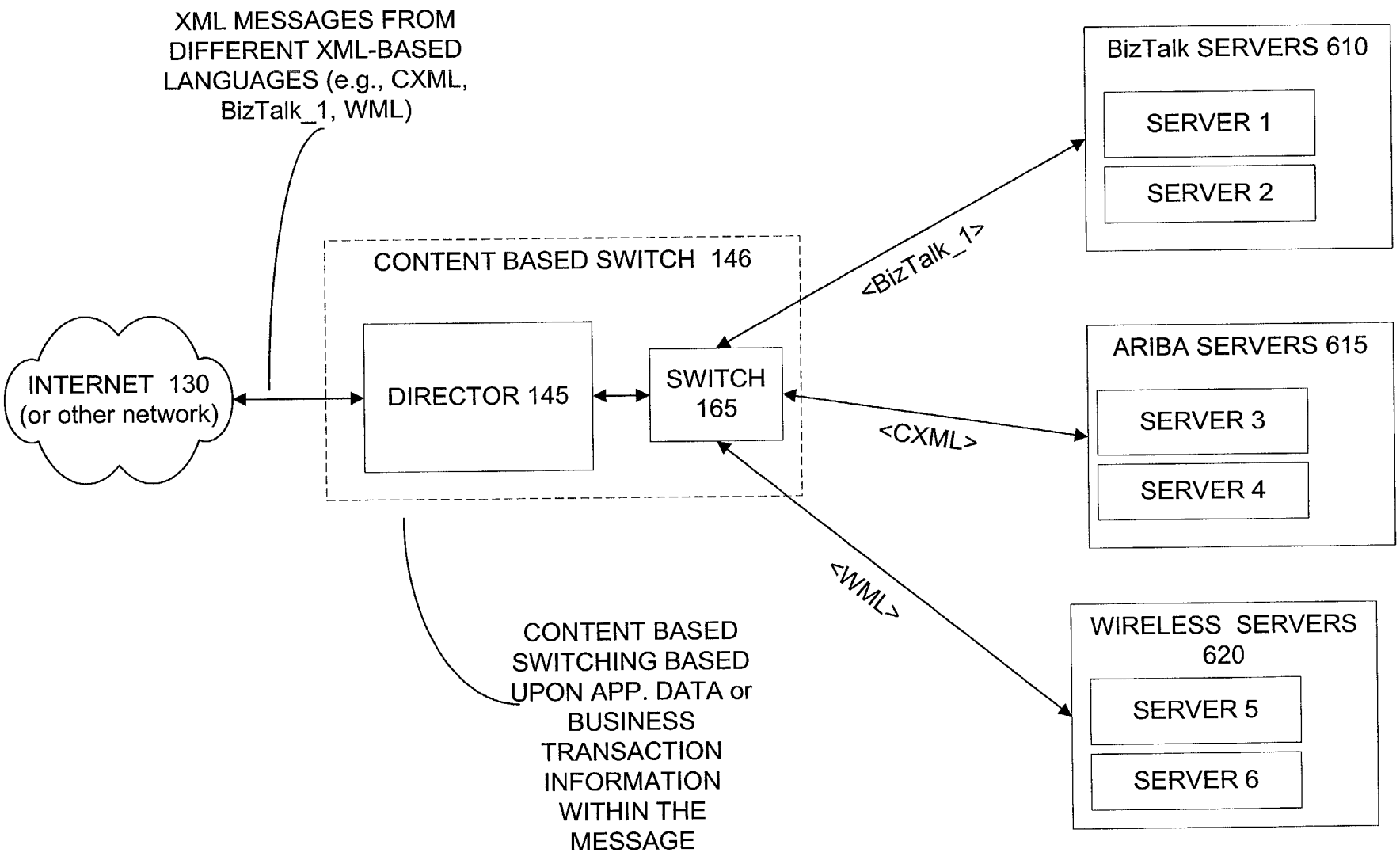
XML MESSAGES FROM DIFFERENT XML-BASED LANGUAGES (e.g., CXML, BizTalk_1, WML)
BizTalk SERVERS 610
SERVER 1
SERVER 2
CONTENT BASED SWITCH 146
<BizTalk_1>
INTERNET 130 (or other network)
DIRECTOR 145
SWITCH 165
ARIBA SERVERS 615
SERVER 3
SERVER 4
<CXML>
<WML>
WIRELESS SERVERS 620
SERVER 5
SERVER 6
CONTENT BASED SWITCHING BASED UPON APP. DATA or BUSINESS TRANSACTION INFORMATION WITHIN THE MESSAGE

FIG. 6

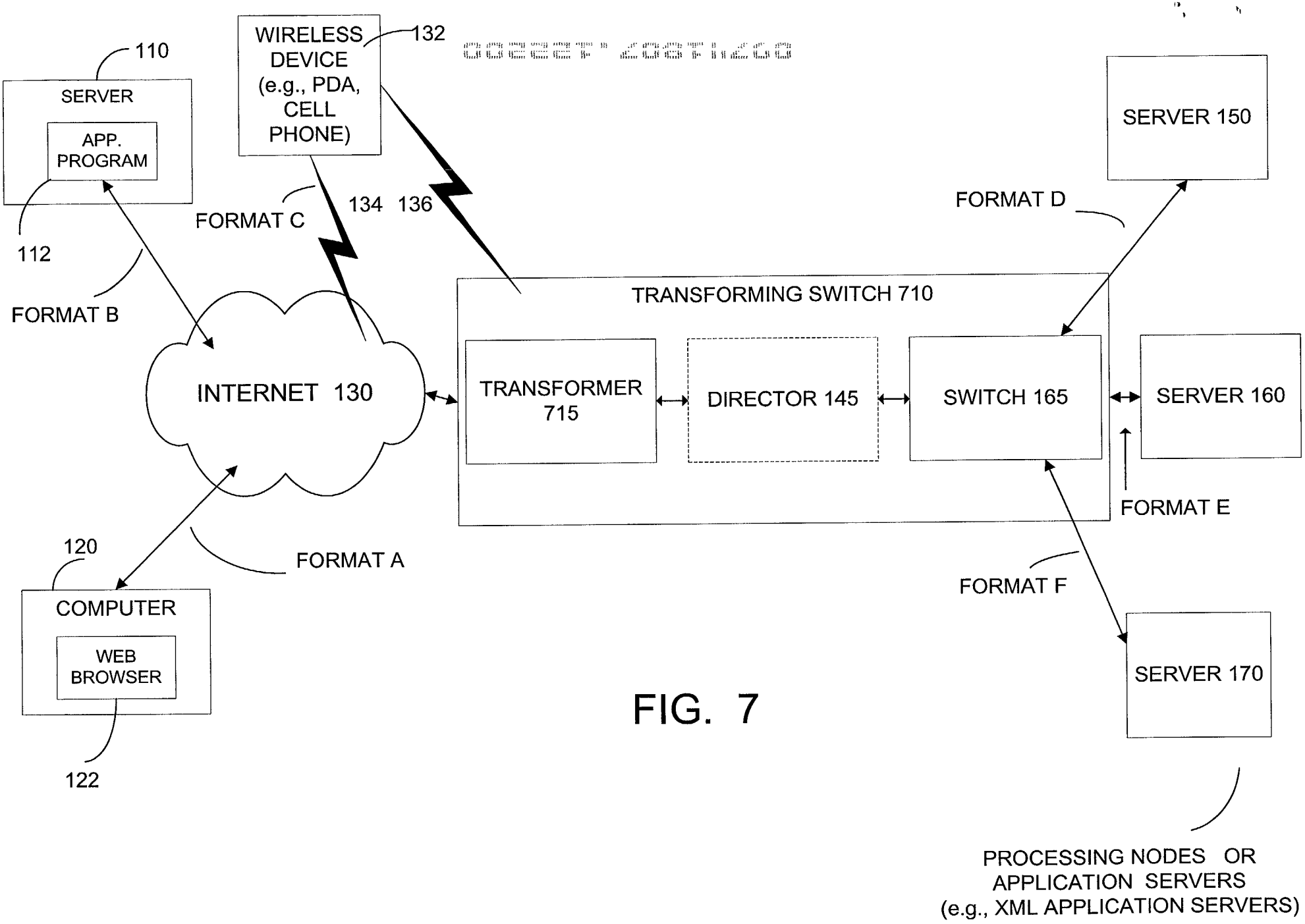
110
SERVER
APP. PROGRAM
112
WIRELESS DEVICE (e.g., PDA, CELL PHONE)
132
FORMAT C
134
136
SERVER 150
FORMAT D
FORMAT B
TRANSFORMING SWITCH 710
INTERNET 130
TRANSFORMER 715
DIRECTOR 145
SWITCH 165
SERVER 160
FORMAT E
120
FORMAT A
FORMAT F
COMPUTER
WEB BROWSER
122
SERVER 170
PROCESSING NODES OR APPLICATION SERVERS (e.g., XML APPLICATION SERVERS)

FIG. 7

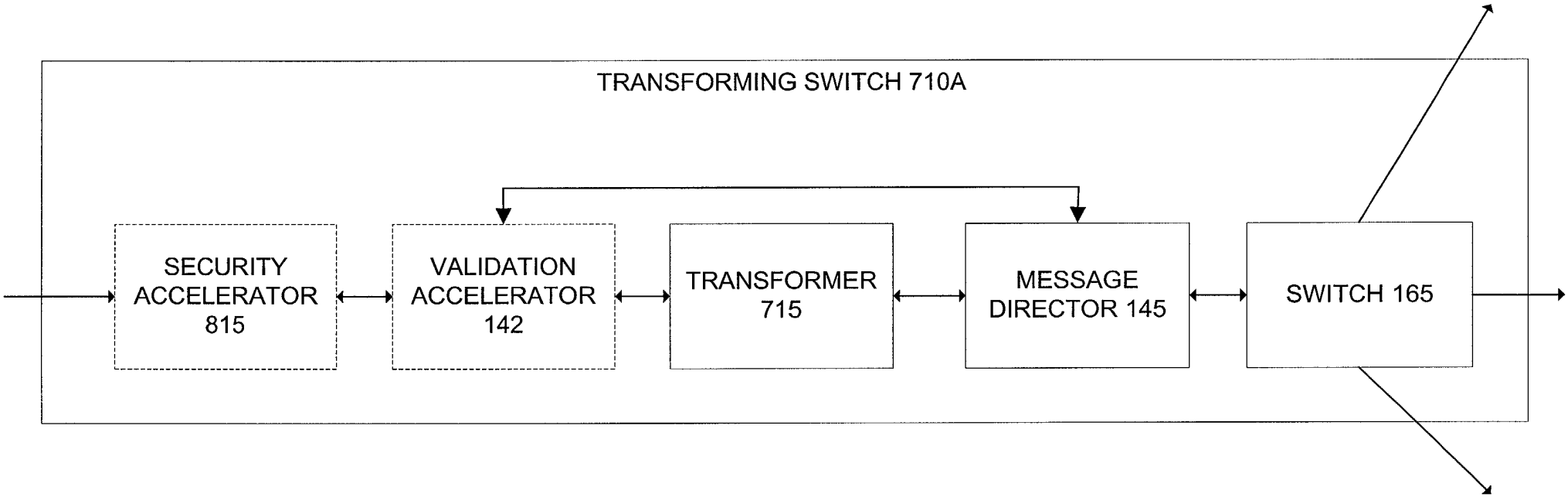
TRANSFORMING SWITCH 710A
SECURITY ACCELERATOR 815
VALIDATION ACCELERATOR 142
TRANSFORMER 715
MESSAGE DIRECTOR 145
SWITCH 165

FIG. 8

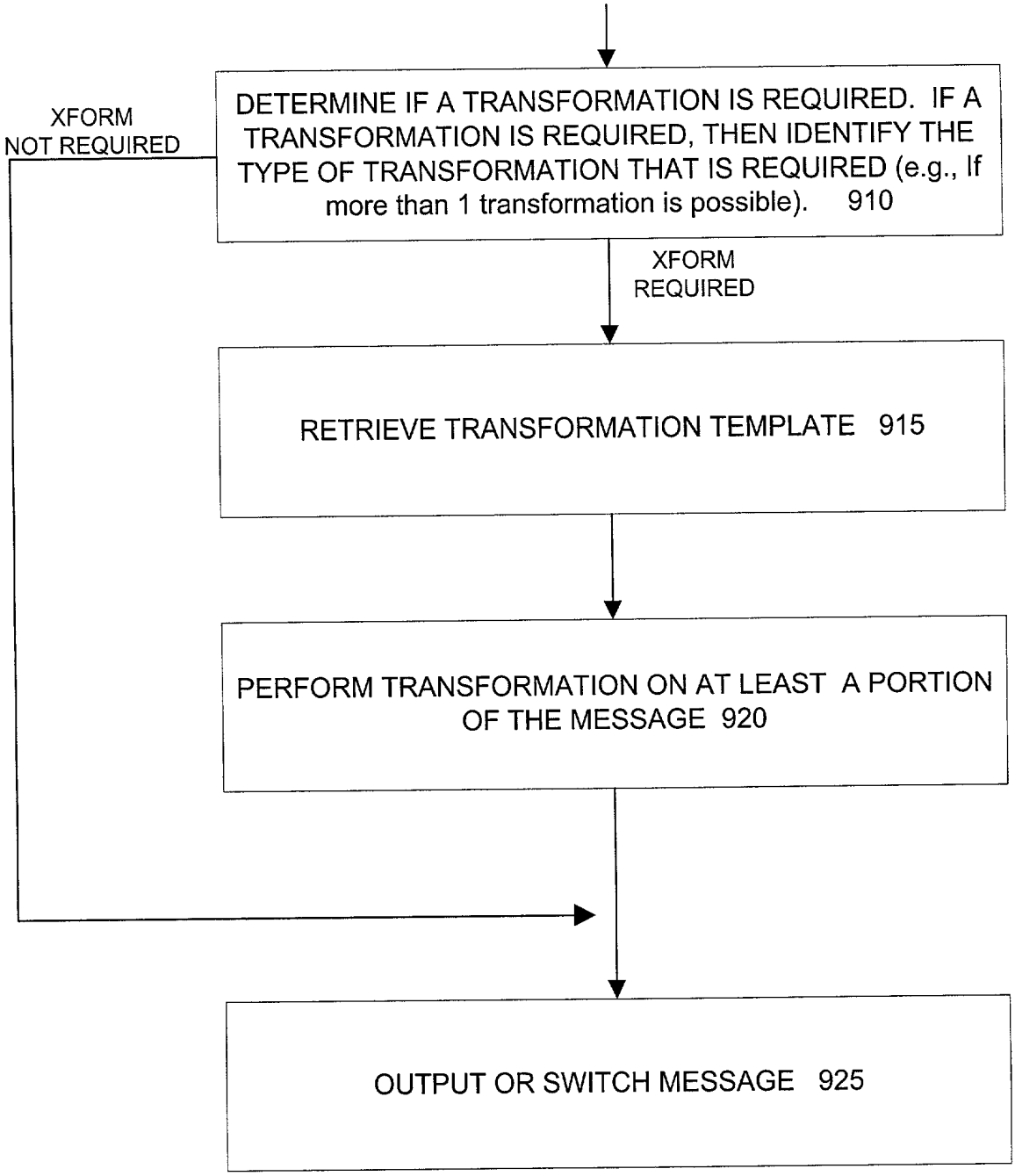
DETERMINE IF A TRANSFORMATION IS REQUIRED. IF A TRANSFORMATION IS REQUIRED, THEN IDENTIFY THE TYPE OF TRANSFORMATION THAT IS REQUIRED (e.g., If more than 1 transformation is possible). 910
XFORM NOT REQUIRED
XFORM REQUIRED
RETRIEVE TRANSFORMATION TEMPLATE 915
PERFORM TRANSFORMATION ON AT LEAST A PORTION OF THE MESSAGE 920
OUTPUT OR SWITCH MESSAGE 925

FIG. 9

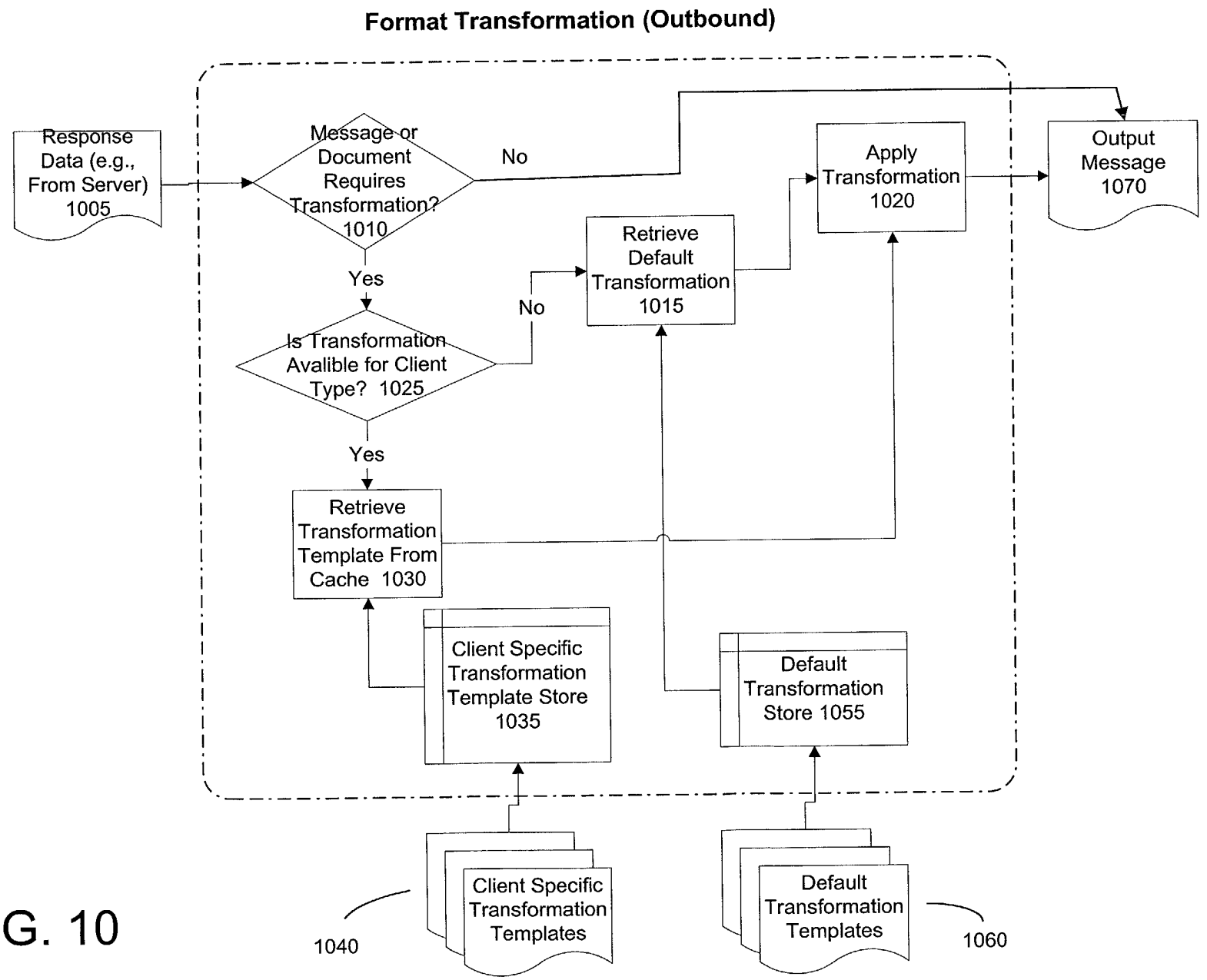
Format Transformation (Outbound)
Response Data (e.g., From Server) 1005
Message or Document Requires Transformation? 1010
No
Yes
Is Transformation Avalible for Client Type? 1025
No
Yes
Retrieve Default Transformation 1015
Apply Transformation 1020
Output Message 1070
Retrieve Transformation Template From Cache 1030
Client Specific Transformation Template Store 1035
Default Transformation Store 1055
Client Specific Transformation Templates
Default Transformation Templates
1040
1060

FIG. 10